We claim

1. A kit for nucleic acid manipulation, comprising:

(a) a substrate having a surface coated with a solid phase matrix, wherein said matrix is a specific binding material having one or more electropositive materials rendered hydrophilic; and

(b) one or more containers comprising buffers and/or reagents necessary for manipulating said nucleic acid.

2. The kit of claim 1, wherein said substrate is in the shape of tubes, plates, membranes, capillaries, slides beads, microparticles, fibers, microchannels, and microarrays.

3. The kit of claim 1, wherein said substrate is a polymer or an oxide substrate.

4. The kit of claim 1, wherein said electropositive material comprises one or more elements selected from the group consisting of aluminum, titanium, zirconium, hafnium, scandium, yttrium, lanthanum, vanadium, tantalum, chromium, molybdenum, tungsten, boron, gallium, indium, germanium, tin, and lead.

5. The kit of claim 1, wherein said matrix is selected from the group consisting of aluminum oxide, titanium oxide (Ti_2O_3), and modified zirconium dioxide (ZrO_2).

6. The kit of claim 1, wherein said matrix is selected from the group consisting of alpha aluminum oxide, gamma aluminum oxide and an aluminum oxide thin-film of mixed composition.

7. The kit of claim 1, wherein said solid phase matrix is titanium oxide (Ti_2O_3).

8. The kit of claim 1, wherein said solid phase matrix is modified zirconium oxide (ZrO_2).

9. The kit of claim 1, wherein said reagents include reagents for amplifying said nucleic acid.